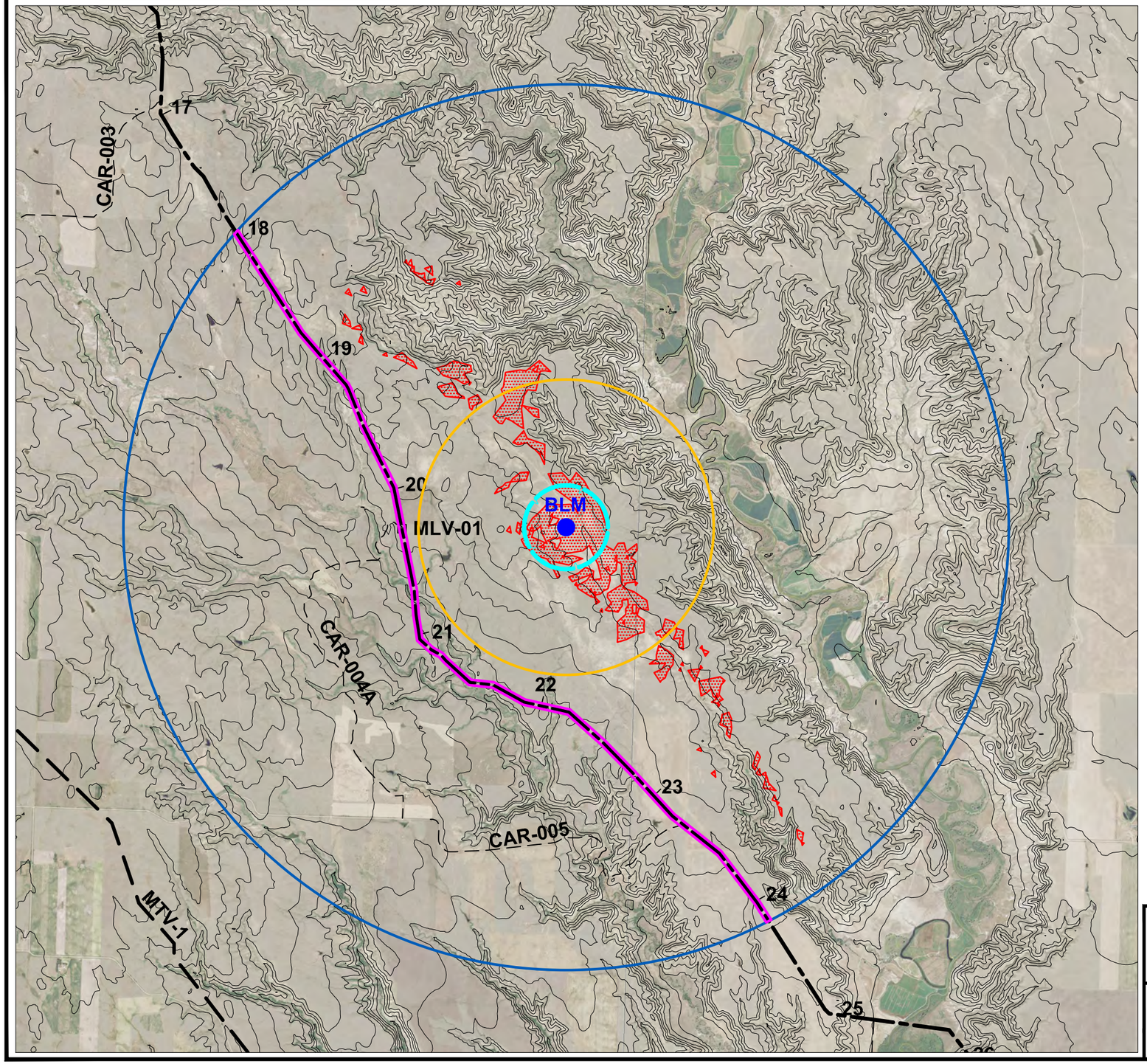
APPENDIX D. FIGURES 1 TO 22



LEGEND

- Proposed pipeline centerline
- MTV-1 — MT DEQ pipeline alternative route
- CAR-013 — Access Road
- PS-09 — Pump Station
- MLV-01 — Valve Site
- 45 — Milepost
- Approximate lek location
- 3-mile buffer
- 1-mile buffer
- Viewshed from lek
- Suitable nesting habitat*
  North of Milk River: Average shrub cover ≥15%, silver sagebrush is approximately half of the shrub cover (Tack 2006).
  South of Milk River: Average shrub cover ≥15-31% of which the majority is sagebrush (Montana Sage Grouse Work Group 2005).
  *All nesting habitat based on field mapping within 150' of centerline.
  NOTE: Implement Mitigation I at all areas with suitable nesting habitat.

Proposed Construction Constraints and Mitigation

- Constraint I. No construction from March 1 through June 15.
- Constraint II. No construction from ½ hour before sunrise to 2 hours after sunrise from March 1 through June 15.
- Mitigation I. Mow suitable nesting habitat between September 1 and November 30 in the year prior to construction. Implement sage-grouse nesting habitat Construction/Reclamation Unit.
- Mitigation II. Monitor lek when pipeline construction is within 3 miles. If displaying males that were present prior to construction are not present for three consecutive mornings after construction has commenced, confer with designated personnel.

Notes:
1. Eight male sage-grouse observed in 2009.
2. Birds are highly mobile at this lek and may occur within 1 mile of site shown on map in any given year.

Centerline and facilities: 03/26/10.
Aerial photography: NAIP 2009.
Viewshed and 10 meter topography generated from USGS 1 arc-second NED.

N

4000 2000 0 4000 6000 8000
Feet

Greater sage-grouse lek BLM : Viewshed from lek and suitable nesting habitat along Keystone XL project

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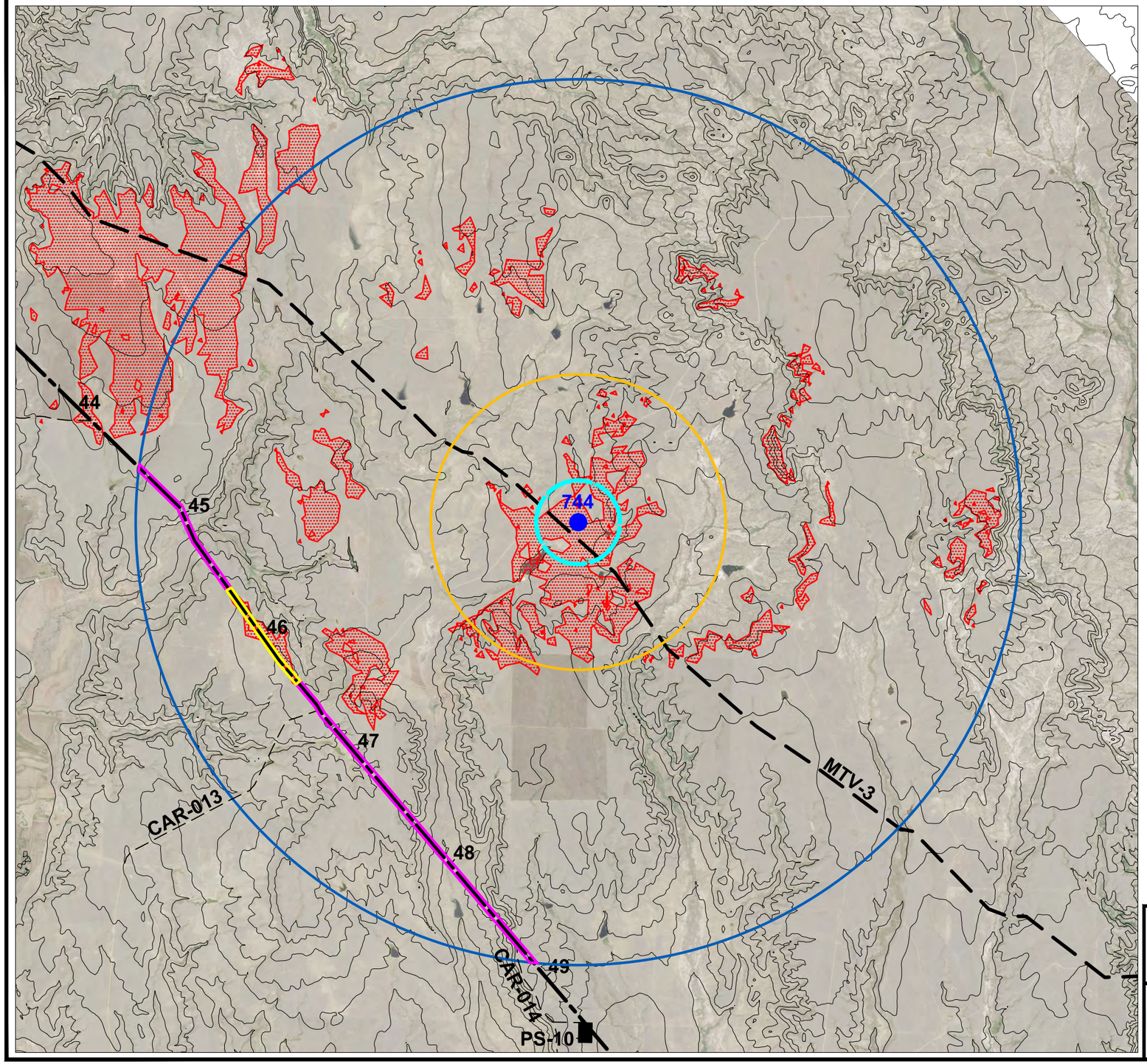
Environmental Services, Inc.
P.O. Box 6045
Helena, Montana 59604

SCALE: 1"=4000'	FIGURE
DATE: 07/02/10	1
DRAWN BY: DC	
CHECKED BY: JB	
FILE: KXL1006.DWG	SHEET: 1 of 1



LEGEND

- Proposed pipeline centerline
- MTV-1 — MT DEQ pipeline alternative route
- CAR-013 — Access Road
- PS-09 — Pump Station
- MLV-01 — Valve Site
- 45 — Milepost
- Approximate lek location
- 3-mile buffer
- 1-mile buffer
- Viewshed from lek
- Suitable nesting habitat*
  North of Milk River: Average shrub cover ≥15%, silver sagebrush is approximately half of the shrub cover (Tack 2006).
  South of Milk River: Average shrub cover ≥15-31% of which the majority is sagebrush (Montana Sage Grouse Work Group 2005).
  *All nesting habitat based on field mapping within 150' of centerline.
  NOTE: Implement Mitigation I at all areas with suitable nesting habitat.

Proposed Construction Constraints and Mitigation

- Constraint I. No construction from March 1 through June 15.
- Constraint II. No construction from ½ hour before sunrise to 2 hours after sunrise from March 1 through June 15.
- Mitigation I. Mow suitable nesting habitat between September 1 and November 30 in the year prior to construction. Implement sage-grouse nesting habitat Construction/Reclamation Unit.
- Mitigation II. Monitor lek when pipeline construction is within 3 miles. If displaying males that were present prior to construction are not present for three consecutive mornings after construction has commenced, confer with designated personnel.

Notes:
1. Two male sage-grouse observed in 2009.

Centerline and facilities: 03/26/10.
Aerial photography: NAIP 2009.
Viewshed and 10 meter topography generated from USGS 1 arc-second NED.

N

4000 2000 0 4000 6000 8000
Feet

Greater sage-grouse lek 744 : Viewshed from lek and suitable nesting habitat along Keystone XL project

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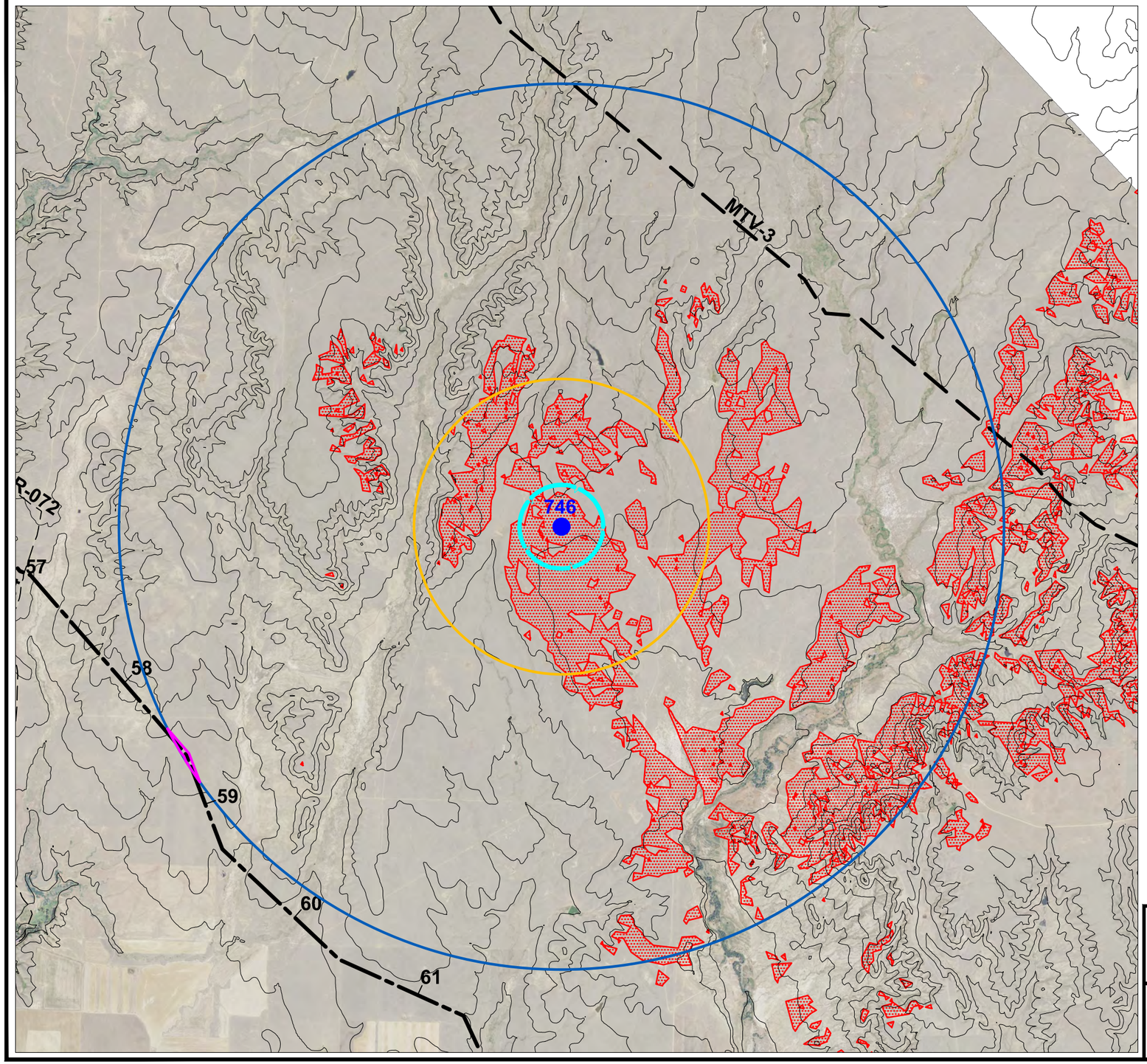
SCALE: 1"=4000'	FIGURE
DATE: 07/02/10	2
DRAWN BY: DC	
CHECKED BY: JB	
FILE: KXL1006.DWG	SHEET: 1 of 1



LEGEND

- Proposed pipeline centerline
- MTV-1 — MT DEQ pipeline alternative route
- CAR-013 — Access Road
- PS-09 — Pump Station
- MLV-01 — Valve Site
- 45 — Milepost
- Approximate lek location
- 3-mile buffer
- 1-mile buffer
- Viewshed from lek
- Suitable nesting habitat*
  North of Milk River: Average shrub cover ≥15%, silver sagebrush is approximately half of the shrub cover (Tack 2006).
  South of Milk River: Average shrub cover ≥15-31% of which the majority is sagebrush (Montana Sage Grouse Work Group 2005).
  *All nesting habitat based on field mapping within 150' of centerline.
  NOTE: Implement Mitigation I at all areas with suitable nesting habitat.

Proposed Construction Constraints and Mitigation

- Constraint I. No construction from March 1 through June 15.
- Constraint II. No construction from ½ hour before sunrise to 2 hours after sunrise from March 1 through June 15.
- Mitigation I. Mow suitable nesting habitat between September 1 and November 30 in the year prior to construction. Implement sage-grouse nesting habitat Construction/Reclamation Unit.
- Mitigation II. Monitor lek when pipeline construction is within 3 miles. If displaying males that were present prior to construction are not present for three consecutive mornings after construction has commenced, confer with designated personnel.

Notes:
1. Thirteen male sage-grouse observed in 2009.
2. Sage-grouse droppings and feathers were observed at MP 58.75 in September 2009.

Centerline and facilities: 03/26/10.
Aerial photography: NAIP 2009.
Viewshed and 10 meter topography generated from USGS 1 arc-second NED.

N

4000 2000 0 4000 6000 8000
Feet

Greater sage-grouse lek 746 : Viewshed from lek and suitable nesting habitat along Keystone XL project

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SCALE: 1"=4000'	FIGURE
DATE: 07/02/10	3
DRAWN BY: DC	
CHECKED BY: JB	
FILE: KXL1006.DWG	SHEET: 1 of 1